

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A pH-sensitive polymer comprising:

25 to 65% by weight of methacrylic acid units, and

[[80]]

60 to 35% by weight of units of ethyl acrylate

C<sub>1</sub>-C<sub>18</sub>-alkyl esters of (meth)acrylic acid;

wherein the pH-sensitive polymer has a molecular weight in the range from 1,000 to 50,000 g/mol,

~~does not contain transition metal complexes,~~ and

brings about at least 60% haemolysis at pH 5.5, and less than 5% haemolysis at pH 7.4, at a concentration of 150 µg/ml in a cytotoxicity test with human red blood cells.

Claim 2 (Currently Amended): The pH-sensitive polymer according to Claim 1,

wherein the pH-sensitive polymer comprises:

40 to 60% by weight of methacrylic acid units and

60 to 40% by weight of ethyl acrylate units.

Claim 3 (Currently Amended): The pH-sensitive polymer according to Claim 1,

wherein the pH-sensitive polymer comprises

~~25 to 40%~~

30 to 50% by weight of methacrylic acid units,

~~25 to 45% by weight of methyl acrylate units,~~ and

25 to 45%

35 to 50% by weight of ethyl acrylate units.

Claim 4 (Currently Amended): The pH-sensitive polymer according to Claim 1,  
wherein the pH-sensitive polymer essentially consists of:

50 wt.% methacrylic acid and 50 wt.% ethylacrylate; or

30 wt.% methacrylic acid, 35 wt.% ethylacrylate, and 35 wt.% methylacrylate  
comprises

~~40 to 60% by weight of methacrylic acid units,~~

~~60 to 30% by weight of ethyl acrylate units, and~~

~~2 to 20% by weight of butyl methacrylate units.~~

Claim 5 (Currently Amended): The pH-sensitive polymer according to Claim 1,  
wherein the pH-sensitive polymer does not contain transition metal complexes

~~40 to 60% by weight of methacrylic acid units,~~

~~60 to 40% by weight of ethyl acrylate units, and~~

~~0.1 to 2% by weight of units of a C<sub>8</sub>- to C<sub>16</sub>-alkyl ester of acrylate or methacrylate~~  
acid.

Claim 6 (Currently Amended): The pH-sensitive polymer according to Claim 1,  
which brings about in a MTT test with the macrophage-like cell type J774A.1 (ATCC TIB-  
67) a percentage value of cell survival of at least 25% when the concentration of pH-sensitive  
polymer is 0.03125 mg/ml

~~wherein at a concentration of 0.03125 mg/ml the pH-sensitive polymer brings about~~  
~~in the MTT test with the mouse macrophage-like cell type J774A.1 (ATCC TIB-67) a~~  
~~percentage value of cell survival of at least 25%, based on a 100% survival rate in the control~~  
~~experiment.~~

Claim 7 (Currently Amended): The pH-sensitive polymer according to Claim 1 6,  
which brings about in a LDH test with the macrophage-like cell type J774A.1 (ATCC TIB-  
67) a LDH release value of not more than 40% when the concentration of pH-sensitive  
polymer is 0.03125 mg/ml

~~at a concentration of 0.03125 mg/ml the pH-sensitive polymer brings about in the~~  
~~LDH test with the mouse macrophage-like cell type J774A.1 (ATCC TIB-67) a LDH release~~  
~~value of at not more than 40%[[,]] based on 100% cytotoxicity (toxicity) in the control~~  
~~experiment.~~

Claim 8 (Currently Amended): ~~The pH-sensitive polymer according to Claim 1,~~  
A pH-sensitive polymer comprising:  
25 to 65% by weight of methacrylic acid units, and  
60 to 35% by weight of units of ethyl acrylate  
wherein the pH-sensitive polymer has a molecular weight in the range from 1,000 to  
50,000 g/mol,  
and  
brings about at least 60% haemolysis at pH 5.5, and less than 5% haemolysis at pH  
7.4, at a concentration of 150 µg/ml in a cytotoxicity test with human red blood cells;  
wherein the pH-sensitive polymer comprises ~~is in the form of a conjugate or a~~  
~~complex with~~ a pharmaceutically effective natural or synthetic biomolecule or an active  
pharmaceutical ingredient.

Claim 9 (Currently Amended): The pH-sensitive polymer according to Claim [[1]] 8,  
wherein the pH-sensitive polymer is coupled to a conformation-altering agent.

Claim 10 (Currently Amended): The pH-sensitive polymer according to Claim [[1]]  
8, wherein the pH-sensitive polymer is a constituent of a complex crosslinked via nucleic  
acids after chemical modification.

Claim 11 (Currently Amended): A process for preparing a pH-sensitive polymer  
according to Claim 1, the process comprising:

free-radically polymerizing 25 to 65% by weight of methacrylic acid monomer units  
with [[75]] 60 to 35% by weight of monomer units of ethylacrylate ~~C<sub>4</sub>-to-C<sub>18</sub>-alkyl esters if~~  
~~(meth)acrylic acid~~ in the presence of polymerization initiators and molecular weight  
regulators by block polymerization, bead polymerization, emulsion polymerization, group  
transfer polymerization (GTP), or atom transfer radical polymerization (ATRP) to form the  
polymer, and optionally:

discharging the polymer,  
dissolving the polymer,  
purifying the polymer and/or  
drying the polymer.

Claim 12 (Previously Presented): The process according to Claim 11, wherein the  
molecular weight regulator is dodecyl mercaptan and/or 2-ethylhexyl thioglycolate.

Claims 13-18 (Cancelled)

Claim 19 (Currently Amended): The pH-sensitive polymer of Claim 1 which is  
produced by free radical polymerization of said monomers in the presence of a

polymerization initiator and molecular weight regulator by block, bead or emulsion polymerization.

Claim 20 (Previously Presented): The pH-sensitive polymer of Claim 1 which is not produced by catalytic chain polymerization (CCT), group transfer polymerization (GTP) or by atom transfer radical polymerization (ATRP).

Claim 21 (Currently Amended): A pH-sensitive polymer comprising:  
25 to 65% by weight of units of methacrylic acid,  
[[80]] 60 to 35% by weight of units of ethylacrylate ~~C<sub>4</sub>-C<sub>18</sub>-alkyl esters of~~  
~~(meth)acrylic acid,~~  
wherein the pH-sensitive polymer has a molecular weight in the range from 1,000 to 50,000 g/mol,  
does not contain transition metal complexes, and  
brings about at least 60% haemolysis at pH 5.5, and less than 5% haemolysis at pH 7.4, at a concentration of 150 µg/ml in a cytotoxicity test with human red blood cells;  
wherein said pH-sensitive polymer is produced by polymerizing methacrylic acid and ethylacrylate ~~C<sub>4</sub>-C<sub>18</sub>-alkyl esters of (meth)acrylic acid~~ in the presence of a molecular weight regulator which incorporates on a terminal of said polymer.

Claim 22 (Currently Amended): The pH-sensitive polymer of claim 21, which is produced by polymerizing a monomer mixture of methacrylic acid and ethylacrylate ~~C<sub>4</sub>-C<sub>18</sub>-alkyl esters of (meth)acrylic acid~~ in the presence of 5 to 15% of n-dodecyl mercaptan by weight based on the weight of the monomer mixture.

Claim 23 (Currently Amended): The pH-sensitive polymer of claim 21, which is produced by polymerizing a monomer mixture of methacrylic acid and ~~C<sub>4</sub>-C<sub>18</sub>-alkyl esters of (meth)acrylic acid~~ ethylacrylate in the presence of 5 to 10% of 2-ethylhexyl thioglycolate by weight based on the weight of the monomer mixture.

Claims 24-26 (Cancelled)